

Title (en)

Tubular substance and manufacturing method therefor

Title (de)

Rohrförmige Substanz und Verfahren zur seiner Herstellung

Title (fr)

Substance tubulaire et méthode de sa fabrication

Publication

EP 0943237 A3 20000202 (EN)

Application

EP 99112959 A 19951205

Priority

- EP 95119151 A 19951205
- JP 33014194 A 19941206
- JP 9302195 A 19950327
- JP 9302295 A 19950327
- JP 16654895 A 19950630

Abstract (en)

[origin: EP0715807A1] The invention concerns a durable and good-operability fishing rod which is highly strong and is improved in specific rigidity by preventing excessive resin, reinforced fibers from leaning to one side, and resin pools. The fishing rod has a main layer (12) formed by winding a first prepreg provided by impregnating highly strong fibers with resin so that weight percentage becomes 25% or less so that the fibers are oriented in an axial length direction and a reinforcement layer (14, 16) formed by winding a second prepreg provided by impregnating highly strong fibers with resin so that the fibers are oriented in a direction crossing the fiber orientation of the main layer (12) on at least one side of the inside and outside of the main layer (12). The reinforcement layer (14, 16) is formed thinner than the main layer (12), and resin impregnation percentage of the second prepreg is set to substantially the same as that of the first prepreg. <IMAGE>

IPC 1-7

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IPC 8 full level

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Citation (search report)

- [A] GB 1082664 A 19670906 - LAB D ETUDES ET DE RECH S CHIM
- [A] DE 3841228 A1 19890615 - SHIMANO INDUSTRIAL CO [JP]

Cited by

CN100455190C; EP1779995A1

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EP 0715807 A1 19960612; **EP 0715807 B1 20000308**; DE 69515430 D1 20000413; DE 69515430 T2 20000706; DE 69532142 D1 20031218; DE 69532142 T2 20040415; EP 0943237 A2 19990922; EP 0943237 A3 20000202; EP 0943237 B1 20031112; US 6301821 B1 20011016

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